(*Continued from page 238*)

dition is always implied; thus, 123 means 100 + 20 + 3. The proposed system incorporates the positional notion in the binary names, and thus we might suppose, if it is analogous, that thereafter addition alone is implied.

I trust the author will see fit to remove such ambiguities and prove that the resulting rules enable one to express any number, and that this representation will be unique for whole numbers.

DONALD B. HOUGHTON
Franklin Institute,
Philadelphia, Pennsylvania

With reference to the letter of Lawrence Rosler, the octal system is certainly more economical than the binary system for communication of large numbers. The hexadecimal system is still more economical and shares with the octal ease of interconversion with binary numbers. Neither of these, however, is a binary system. If I may apply the "ap"titude for naming digits with which the letter credits me, I suggest use of the name "eight" for the first power of eight.

Criticism of the term "one" has come to me also from F. T. Jung of Evanston, Ill. Jung suggests the French "un" as alternative. "Bit" implies a choice of two alternatives rather than unity. Changes such as those suggested can be considered if the system acquires formal recognition.

In regard to the letter of Donald B. Houghton, I can best reply by asking whether he would raise the question: "Does twenty-three thousand mean twenty + (three × thousand) or (twenty + three) thousand?" In the light of the above illustration, I do not understand the statement that "in the decimal system the named digits have values dependent upon their position and thereafter addition is always implied. . . ." The statement appears to confuse symbolic representation of numbers with naming of numbers.

A few examples will demonstrate the unambiguous application of the rule for naming binary numbers: In hiapdag, ap is smaller than dag, hence ap multiplies dag; hi is larger than apdag, hence hi adds apdag. Applying the same rule to bruonedag, one is smaller than dag, implying multiplication; bru is larger than one, hence bru and one add; bruone is smaller than dag, hence bruone multiplies dag. The rule works equally well from the most significant end. Thus, in the number 11,1100,1011, aponehicidbrudagcidapone, ap adds one; apone multiplies hi; aponehi adds cid and bru; cidbru multiplies dag (. . . hicidbru cannot mulptily dag because it is larger than dag); cid, ap, and one add together and add to the preceding. Thus we get: (ap + one) hi + (cid + bru) dag + cid + ap + one.

The other question raised, that of assuring unique representation of whole numbers, is beyond the scope of my proposal. I am not convinced that such rigidity is desirable. Certainly it does not exist in the decimal system, where one has the choice, for example, of "billion" or "thousand million" and of "twenty-two hundred" or "two thousand two hundred." I doubt that such rigidity can be imposed by rules. If rigid uniqueness is desirable, I prefer that it develop through usage, or that it be established by official groups.

JOSHUA STERN
National Bureau of Standards,
Washington, D.C.

Meetings

Reticuloendothelial System

The 3rd International Symposium on the Reticuloendothelial System was held in Rapallo, Italy, from 28 through 31 August. As with previous meetings, every attempt was made to keep the numbers of participants small and to have all participants reside in a single hotel or villa to provide the best possible communication both during and in between official sessions.

Seventeen nations were represented and 62 scientists participated. Simultaneous translating apparatus was available for all participants. Support for the American investigators attending the symposium was received from Baxter Laboratories, Burroughs Wellcome and Company, Geigy Pharmaceuticals, Hoffmann-La Roche, Charles Pfizer and Company, Schering Corporation, Wallace Laboratories, and Warner-Lambert Pharmaceutical Company. Several national and international pharmaceutical firms in Italy, as well as Esso Standard Oil, Mobil Oil, and Shell Oil, and the Italian Ministry of Education, provided funds and facilities for the symposium.

The papers covered a wide range of subjects including morphology, antibody synthesis, host defense mechanisms, properdin, steroids, shock, endocrines, radiation, isotope techniques, tumors and leukemia, phagocytosis, inflammation, cholesterol and lipid metabolism, radio frequency, and clinical manifestations.

Many of the data presented opened completely new areas of investigation, and many novel techniques of far-reaching implication were presented. These ranged from methods of selectively isolating reticuloendothelial cells to the production of new colloids and of unusual effects on reticuloendothelial cells in vivo by radio frequency. Considerable important information on the sequence of events in antibody synthesis was presented by numerous authors; this included cellular transformation and specific rates and methods of incorporation of amino acids into antibodies.

Interesting new data on substances such as polypeptides, lipids, lipopolysaccharides, dextrans, and humoral factors and their relationship to the reticuloendothelial system were presented. Natural and synthetic corticoids and steroids and their interrelation with reticuloendothelial system function were explored, as well as the role of the reticuloendothelial system in neoplasia and leukemia. The effectiveness and utility of new colloids, both inert and radioactive, were demonstrated, not only as new experimental methods but also in terms of their utility in human clinical diagnosis. The discussions covered lipid metabolism, including the role of the reticuloendothelial system in cholesterol metabolism, hyperlipemia, xanthomatosis, atherogenesis, and nephrosis.

The meeting was deemed to be highly successful and informative; the proceedings will be published by the Ronald Press, New York. The great advantage of a small, intimate meeting, away from a major urban center, was reaffirmed by the participants.

JOHN H. HELLER
Reticuloendothelial Society, New England Institute for Medical Research, Ridgefield, Connecticut

Forthcoming Events

March

1–2. Pennsylvania Acad. of Sciences, Gettysburg. (K. Dearolf, Public Museum and Art Gallery, Reading, Pa.)

1–5. Gas Turbine Power Conf., Cincinnati, Ohio. (O. B. Schier, ASME, 29 W. 39 St., New York, N.Y.)

7. American Chemical Soc., Oklahoma Div., tetrasectional meeting, Tulsa. (J. W. Conant, ACS, Grand River Chemical Div. of Deere and Co., Pryor, Okla.)

8–9. American Broncho-Esophagological Assoc., Hot Springs, Va. (F. J. Putney, 1712 Locust St., Philadelphia, Pa.)

8–9. American Laryngological Assoc., Hot Springs, Va. (J. H. Maxwell, University Hospital, Ann Arbor, Mich.)

8–12. Aviation Conf., Los Angeles, Calif. (O. B. Schier, ASME, 29 W. 39 St., New York, N.Y.)

10–12. American Laryngological, Rhinological and Otological Soc., Hot Springs, Va. (C. S. Nash, 708 Medical Arts Bldg., Rochester 7, N.Y.)

13–14. American Otological Soc., Hot Springs, Va. (L. R. Boies, University Hospital, Minneapolis 14, Minn.)

13–15. Alabama Acad. of Sciences, Auburn. (H. M. Kaylor, Dept. of Physics, Birmingham-Southern College, Birmingham, Ala.)

14–15. Southwestern Soc. of Nuclear Medicine, 4th annual, New Orleans, La. (S. B. Nadler, SSNM, 1520 Louisiana Ave., New Orleans 15, La.)

15–20. American College of Allergists, San Francisco, Calif. (M. C. Harris, 450 Sutter St., San Francisco.)

16–19. American Assoc. of Petroleum Geologists, Soc. of Economic Paleontologists and Mineralogists, 44th annual, Dallas, Tex. (W. A. Waldschmidt, AAPG, 311 Leggett Building, Midland, Tex.)

16–20. American Inst. of Chemical Engineers, Atlantic City, N.J. (F. J. Van Antwerpen, AICE, 25 W. 45 St., New York 36.)

16–20. National Assoc. of Corrosion Engineers, 15th annual conf., Chicago, Ill. (NACE, Southern Standard Bldg., Houston, Tex.)

16–20. Western Metal Exposition and Cong., 11th, Los Angeles, Calif. (R. T. Bayless, 7301 Euclid Ave., Cleveland 3, Ohio)

17–19. National Health Council, Chicago, Ill. (P. E. Ryan, 1790 Broadway, New York, 19.)

18–25. International Social Science Council, 4th general assembly (by invitation), Paris, France. (C. Levi-Strauss, Secretary-General, International Social Science Council, 19, avenue Kleber, Paris.)

19–21. Society for Research in Child Development, NIH, Bethesda, Md. (Miss N. Bayley, Laboratory of Psychology, National Inst. of Mental Health, Bethesda 14, Md.)

23–26. Institute of Radio Engineers, natl. conv., New York, N.Y. (G. L. Haller, IRE, 1 E. 79 St., New York 21.)

24–27. American Meteorological Soc., general, Chicago, Ill. (K. C. Spengler, AMS, 3 Joy Street, Boston, Mass.)

27–28. Michigan Acad. of Sciences, East Lansing. (D. A. Rings, Univ. of Michigan, Dept. of Engineering, Ann Arbor.)

28. South Carolina Acad. of Sciences, Columbia. (H. W. Freeman, Dept. of Biology, Winthrop College, Rock Hill, S.C.)

29–3. Latin American Congress of Chemistry, 7th, Mexico D.F., Mexico. (R. I. Frisbie, Calle Ciprès No. 176, Zone 4, Mexico, D.F.)

30–1. American Orthopsychiatric Assoc., San Francisco, Calif. (M. F. Langer, 1790 Broadway, New York 19.)

30–12. Bahamas Medical Conf., 7th, Nassau. (B. L. Frank, 1290 Pine Ave., W. Montreal, Canada.)

31–2. American Power Conf., 21st annual, Chicago, Ill. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

31–2. Symposium on Millimeter Waves. 9th, New York, N.Y. (H. J. Carlin, Microwave Research Inst., 55 Johnson St., Brooklyn 1, N.Y.)

31–5. International Committee of Military Medicine and Pharmacy, 21st session. Paris, France. (Comité International de Médecine et de Pharmacie Militaires, Hôpital Militaire, 79, rue Saint Laurent, Liège, Belgium.)

April

1–3. American Assoc. of Anatomists, Seattle, Wash. (B. Flexner, Univ. of Pennsylvania Medical School, Philadelphia 4.)

1–4. National Council of Teachers of Mathematics, Dallas, Tex. (H. T. Karnes, Dept. of Mathematics, Louisiana State Univ., Baton Rouge 3.)

1–4. National Science Teachers Assoc., 7th natl. conv., Atlantic City, N.J. (R. H. Carlton, NSTA, 1201 16 St., NW, Washington 6.)

1–4. Neurosurgical Soc. of America, Hot Springs, Va. (F. P. Smith, 260 Crittenden Blvd., Rochester, 20, N.Y.)

1–29. World Meteorological Organization, 3rd session of congress, Geneva, Switzerland. (WMO, Campagne Rigot, 1, avenue de la Paix, Geneva.)

2–3. Electrically Exploded Wires, conf., Boston, Mass. (W. G. Chace, Thermal Radiation Laboratory, CRZCM, Geophysics Research Directorate, Air Force Cambridge Research Center, Bedford, Mass.)

2–4. Association of American Geographers, 55th annual, Pittsburgh, Pa. (J. E. Guernsey, 9707 Parkwood Dr., Bethesda, Md.)

2–4. Association for Computing Machinery, Cleveland, Ohio. (J. Moshman, Corporation for Economic and Industrial Research, 1200 Jefferson Davis Highway, Arlington 2, Va.)

2–4. Optical Soc. of America, New York, N.Y. (S. S. Ballard, Dept. of Physics, Univ. of Florida, Gainesville.)

3–4. Eastern Psychological Assoc., Atlantic City, N.J. (C. H. Rush, Standard Oil Co. of New Jersey, Rockefeller Plaza, New York, N.Y.)

3–5. American Soc. for the Study of Sterility, Atlantic City, N.J. (H. H. Thomas, 920 S. 19 St., Birmingham 5, Ala.)

(See issue of 16 January for comprehensive list)

Equipment

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science *does not assume responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 286.*

■ RESISTANCE THERMOMETER uses a silicon diode reference-voltage supply for the d-c measurement bridge. Reference voltage variation is less than 0.2 percent for a ± 15 percent change in line voltage. Temperature range is – 200° to 1200°F. Operating power requirement is 120/240 v, 50 to 60 cy/sec, 15 w. (General Electric Co., Dept. 586)

■ EVENT RECORDER records duration of events from 0 to 15 sec across a 7-in. horizontal axis on an 8½ by 11 in. sheet. Time of occurrence of each event is recorded along the 10-in. vertical axis for recording periods up to 48 hr. The unit can record either a continuous trace or a dot at the terminus of each event. Input signals close the circuit for the duration of the event. (Mast Development Co., Dept. 604)

■ PYROMETER scans a remotely located surface and presents a temperature profile on a cathode-ray oscilloscope. Surface temperatures within the range 50° to 1000°C are measured. Precision is ± 1°C or ± 2 percent, whichever is larger. (Radiation Electronics Corp., Dept. 607)

■ DIGITAL RATIOMETER measures ratios from 0 to 1.000. Input voltages range from 0 to 6.3 v a-c and 0 to 6 v d-c. With high-impedance input, acurracy is ± 0.1 percent of full scale. Nominal frequency for a-c measurements is 400 cy/sec; variations of ± 2 cy/sec are permissible. Reference input impedance is 1000 ohm; signal input impedance is 20 megohm for the a-c section and 10 megohm for the d-c section. (Performance Measuring Co., Dept. 591)

■ GAS-POWERED TIMING UNIT is designed for use with instruments requiring chart records for periods from 1 hr to 30 days. Compressed gas consumption is 5 ft^3/hr at 5 $lb/in.^2$. All parts exposed to gas are made from aluminum or stainless steel. The clock is self-starting and is not affected by wide fluctuations in supply pressure. (American Meter Co., Dept. 612)

■ POWER SUPPLY is designed for activating and electrically balancing thermal-conductivity sensing cells. Normal voltage output is 17 v with current between 30 and 500 ma. Regulation against input a-c voltage changes between 100 and 130 v is better than 0.25 percent. Response time is less than 25 μsec. (Industrial Instruments Engineering Corp., Dept. 615)

■ LOW-TEMPERATURE CABINET, cooled with Dry Ice, is available in two sizes with work space dimensions 24 by 24 by 24 and 18 by 16 by 20 in., respectively. Temperature range is + 200° to – 120°F. A thermostatically controlled blower mounted in the Dry-Ice compartment forces CO_2 into the working chamber as cooling is required. Temperature is controlled ± 0.5° at – 100°F and ± 1° at + 200°F. Time required to reach – 100°F is approximately 90 min; maintaining this temperature requires 2 to 2.5 lb of Dry Ice per hour. (American Instrument Co., Dept. 601)

■ CHROMATOGRAPHY COLUMN for preparative chromatography, manufactured by LKB-Produktor of Sweden, is capable of separating gram quantities of materials that are separable on a microscale by paper chromatography. A roll of chromatographic paper is used as the column filling. The paper is wound tightly in ready-made rolls around a central polyethylene sheath. A pressure mantle, inflatable by hand pump, surrounds the filling, holds it in place, and removes any inhomogeneity that may be caused by irregular swelling of the paper. (Ivan Sorvall Inc., Dept. 603)

■ GALVANOMETER AMPLIFIER provides gain of 250,000 with noise level less than 0.025 μv r.m.s. The signal is fed to the galvanometer, deflecting the light beam reflected from the galvanometer mirror.